

ABSTRACT

The invention relates to the synthesis of
5 aspartame involving enzymatic deformylation of an *N*-
formyl- α -L-aspartyl-L-phenylalanine compound by
treatment with an enzyme having formylmethionyl peptide
deformylase activity and having as a co-factor group 5
to 11 bivalent metal ions. The invention also relates
10 to selective preparation and recovery of aspartame from
a mixture of *N*-formyl- α - and β -L-aspartyl-L-
phenylalanine compounds by treatment with such enzyme.
And finally, the invention relates to one-pot enzymatic
synthesis of aspartame from *N*-formyl-L-aspartic acid
15 and L- or D,L-phenylalanine methyl ester involving an
enzymatic deformylation reaction simultaneously with an
enzymatic coupling reaction, as well as to one-pot di-
or oligopeptide synthesis by simultaneous enzymatic
coupling and deformylation reactions in general.